THE ESSENTIALS OF SUCCESS IN REPAIR OF THE PELVIC FLOOR

In Primary and Secondary Operations.

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THE ESSENTIALS OF SUCCESS IN REPAIR OF THE PELVIC FLOOR IN PRIMARY AND SECONDARY OPERATIONS.[1]

BY EDWARD REYNOLDS, M.D.

In this brief paper, I do not propose to touch at all upon the anatomical aspects of laceration of the perineum, except in so far as is incidental and necessary to a proper consideration of the conditions which determine success in its repair; but mean to confine myself mainly to certain aspects of this problem which, though now almost universally accepted by specialists, are as yet insufficiently realized by at least a large proportion of general practitioners. I wish first to enumerate the characteristics which are generally admitted to be essential to a successful suture, and which are common to all successful methods.

It was for a long time believed that laceration of the vaginal outlet was a tear of that supposed supporting structure, the perineal body, in the antero-posterior median plane of the body. It is only within the last few years that another and more satisfactory description has been given.

In 1883, Dr. Emmett, the father of perineorrhaphy, first announced the belief, now generally held, that for mechanical purposes the perineal body is a myth; and that the true reason for the loss of support which follows these tears, is to be found in their destruction of the integrity of the muscles and fascia of the pelvic diaphragm.

In connection with his publication of a belief in this

[1] Read before the Boston Society for Medical Improvement, February 22, 1892.

new pathology, he described a new method of introducing the sutures; which was essentially an abandonment of the old idea that the separated tissues were to be brought together from side to side, and an acceptance of the principle that the essential characteristic of all successful methods is the approximation of the torn surfaces from above downward, and from without inward to the median line.

In a recent address, he has stated that the success of his earlier operations was in fact due to their incidental possession of the longitudinal traction, which is now admitted to be the main object of the operation, and he, in common with other gynecologists, now holds that the approximation of the tear from side to side, which is undoubtedly secured by any method of suture, is an incidental and far less necessary matter.

As the tears undoubtedly present themselves under various forms, I wish at this point to exhibit a series of diagrams which were drawn from life for me by one of the house-officers of the Boston Lying-in Hospital, and published in a paper upon the anatomy of the lacerated perineum, which I wrote for the last meeting of the American Gynecological Association.[2]

These figures illustrate an attempt to classify all the forms of tear which are observed in practice, as modifications of one type form, which is illustrated in the first figure. The paper for which these diagrams were originally made was an attempt to present a theoretical and mechanical proof for the necessity of approximating the tissues from above downward; but for practical purposes, a better demonstration is to be found by a consideration of the results of proper and improper methods of suture. When the sutures are inserted in such a way as to approximate the tissues from side to side, it is a matter of common observation

[2] Trans. American Gynecological Association, 1891, vol. xvi, p. 308.

that the result produced is substantially that which I have endeavored to represent by Figure 1, in which the line of union is narrow, and its external surface is almost at right angles to the lower portion of the posterior wall of the vagina. The anterior and posterior vaginal walls are but partially supported by such a result; the formation of the rectocele and cystocele goes on; the skin of the perineum so formed soon stretches and yields, and nothing has been accomplished by the operation.

FIG. 1.

When, upon the other hand, the tissues are systematically drawn together from above downward and from below upward, the form of result in well managed cases is that which is diagrammatically represented in Figure 2. The resulting surface of union is broad and deep; the external surface slopes upward and forward to form a genital furrow which is closely similar in shape to that of the normal or unlacerated vulva; the posterior vaginal wall is thickened, and its anterior surface forced forward, until it is brought in contact with the anterior wall, to which it furnishes a firm support.

Such a union results almost invariably in the disap-

pearance of sub-involution of the vagina and the arrest of the prolapse of the vaginal walls. By it the pelvic fasciæ are again put upon the stretch, and converted into a firm occluding curtain for the support of the superimposed viscera; so that it may be said that the essential criterion by which the result of a perineorrhaphy should be judged, is that the fourchette of the new perineum should not only be sufficently close to the lower edge of the symphysis, but should be upon approximately the same level with it, and that the sigmoid curve of the vagina should be fully restored.

FIG. 2.

If this result is attained, the precise method by which the sutures were introduced is a matter of unimportance; and the choice between the many methods which afford the essential requisite of drawing the tissues together from above downward, is one which depends upon the rapidity and ease with which the stitches can be introduced, rather than upon any other quality. This choice must always depend, to a certain extent, upon the idiosyncrasies of the individual operator; but it must also be regulated, both by the peculiarities of the individual case, and by the time at which the operation is undertaken.

The distorted condition of the tissues immediately

after labor renders the more detailed and exact methods difficult of application; and the fact that the tissues at this time have not been distended and altered by the production of rectoceles or cystoceles, renders the adoption of such exact methods unnecessary; while, upon the other hand, the rough and ready approximation which yields excellent results in primary operations, would be entirely insufficient for a successful secondary repair.

For these reasons, I am inclined to advocate a considerable difference in the methods which should be pursued in primary and secondary operations. After a considerable experience in the suture of the perineum immediately after labor by both methods, I have been led to believe that the attempt to approximate the whole surface of the tear with the accuracy which is necessary at a later period, is apt to lead only to distorted results; that is, to the suturing together of parts which were never separated from each other; and that the result is likely to be better if the tissues as a whole are drawn into moderately close approximation, and their exact arrangement against each other left to nature, and thus trusted to the forces of retraction and re-arrangement to which their whole substance is subjected during the few hours which follow delivery. It is, moreover, important that the method selected for use immediately after delivery should be one which permits the operator to act with a minimum of assistance.

The method which I myself pursue, and by which I am accustomed to attain, I think, upon the whole, better results than I formerly secured by more elaborate procedures, is as follows: A large, fully curved needle is threaded with silk or catgut, the second finger of the left hand is introduced into the rectum, and the forefinger of the same hand into the vagina. For a

long time I employed the old-fashioned, large, fully curved surgical needle of our fathers, but of late have learned to prefer a delicate Hanks-Peaslee needle, which I will pass about. The needle is then made to penetrate the skin at a point well out towards the left side of the patient's perineum, at least a third of an inch from the edge of the tear, and about opposite the antero-posterior edge of the anus; it is carried upwards and inwards with a wide sweep, entirely buried in the tissues, under the guidance of the first and second fingers of the left hand, until it crosses the median line at the point where the thicker perineal body is beginning to merge in the thin recto-vaginal septum, and is brought downward with the same wide sweep, to emerge exactly opposite to its point of entrance.

A second suture is introduced in the same manner, at the same distance from the lateral edge of the tear, and at a point which is, antero-posteriorly, half-way between the anus and the fourchette; and is carried upward to about the same point in the recto-vaginal septum. A third is introduced in the same manner, and with the same width and height, at a point about opposite, or, if anything, anterior to the situation of the fourchette.

The relation of these three sutures to the tissues of the outlet, is shown diagrammatically in median section in Figure 3. When they are drawn together from side to side with moderate firmness, the edges of the tear in the median line are rolled inwards, and disappear upwards out of sight; and on examination with the finger, it will be found that the entroitus is of proper narrowness, and the sigmoid curve of the vagina fully restored.

In spite of the apparent roughness of the approximation, I have been accustomed to see it followed in

the primary operation by most excellent, and even artistic-looking, results. In exceptional cases, in which the lateral prolongations of the typical Y-shaped tear extend so far up the vagina as to be necessarily crossed by these stitches, it is well to bring their ends together by a few running sutures, such as are to be described in the secondary operation; but my experience with a number of extremely prolonged tears, in which the approximation was necessarily rendered imperfect by lack of assistance, and with one extraordinarily long unsutured tear which I had the pleasure of seeing with

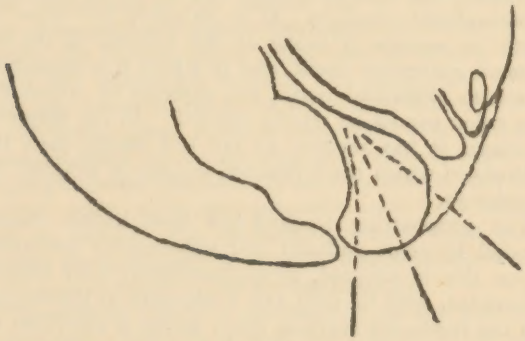

FIG. 3.

Dr. E. J. Forster in the gynecological wards of the Boston City Hospital, to which she had been referred for the secondary operation, leads me to believe that the upper portion of these wings of the tear are likely to heal equally well without suture, provided that the lower portion is well repaired — a phenomenon which I may say, in passing, I believe can be readily explained upon mechanical and anatomical grounds.

For the secondary operation, there are three methods which are so generally applicable, and so readily and easily performed, as to be worthy of special mention.

First of these is Mr. Tate's flap-splitting operation. This possesses the important advantage that, when it is applied to late and difficult cases, it sacrifices no tissue whatsoever, and secondly, does not increase the difficulties of a second operation, should the first prove unsuccessful. By it the tissues which have been separated from each other, are brought much more nearly into apposition with each other than would at first sight be considered possible. It is valuable for cases in which the amount of tissue at the disposal of the operator is extremely small, and in which it is necessary to utilize cicatricial tissue, the capacity of which for firm union cannot be wholly trusted. In the majority of cases, it has seemed to me less useful than the methods in which the freshened surface is supplied by denudation.

The purse-string method has been highly recommended by many eminent and experienced operators. When this is adopted, an approximately oval surface is denuded, with its long axis transverse to the vagina, and the freshened surface, when made, is encircled by one or more sutures, which follow its contour, and which when drawn together, pucker up its large circular edge to a single point. I have had no experience with this method in perineal plastics, and can offer no opinion of value upon its merits. Upon theoretical grounds, it would seem to sacrifice accuracy to rapidity; yet I have no doubt, upon theoretical grounds again, that it would furnish, at least, fairly good support; and, as was said before, it has been highly recommended.

The third method to which I propose to refer, is

that of Dr. Emmett, which is, however, modified by almost every operator, to suit his individual convenience and peculiarities.

For the proper performance of this operation, it is essential that the denuded area should be of exactly the right extent; and it will, perhaps, be well for me to give here a repetition of Dr. Emmett's directions for the determination of this point.

A tenaculum should be introduced into the last caruncula upon each side of the vulva, and these should be drawn upward, forward, and to the median line, by an assistant, while the operator engages another tenaculum in the median line of the posterior wall, at successively higher and higher points, until he reaches the highest point which can be drawn sufficiently far downward to meet the carunculæ, when these are drawn as far up as is possible without leaving the median line. Each of these three points should then be marked by a snip from the scissors, when by bringing together successively each caruncula and the marked point upon the posterior wall, two lateral folds or troughs will be formed, which, when their bottoms are depressed by a probe, will mark the limits of the lateral wings of the denuded surface.

The essential points in the insertion of the stitches, are that the bottom of each of the coaptation sutures should be much nearer to the median line than its points of insertion and emergence: that they should be tied in successive order from without inwards towards the median line, and that the purse-string or supporting suture, which is introduced after the others have been tied, should be passed with a wide sweep, and should pass transversely above the new-formed perineal body.

The modification of this suture which I myself employ in secondary operations, and which I believe to

be as accurate as any other, and more rapid than most, is as follows:

The coaptation of the horns of the crescent is secured by a running suture, beginning at the end of the horn, and working inward; but the needle, with the free end of the thread, is carried through the preceding bight after each emergence from the tissues, in order to secure the same accuracy of adaptation which is obtained by uninterrupted sutures. I then insert two purse-string sutures, which are exactly similar to the first and third sutures which I use in the primary operation, with the single exception that they are introduced close to the edge of the tear, and then swept outward as they ascend, in order to minimize their cutting effect upon the external skin; and this I think permissible because the infolding of the median line has here been secured by the internal sutures. In primary operations, I habitually employ silk sutures, though I have uniformly obtained equally good results with catgut. In the secondary operations, I am accustomed to employ catgut for the internal sutures, and stout silver wire for the external or purse-string stitches, using the latter material for these two last stitches, because I wish to feel certain that these, at least, will preserve their integrity until after the bowels have moved; and also because, if they become relaxed by the subsidence of swelling, or by cutting through the tissues, I am accustomed to tighten them up immediately before the bowels move for the first time, and thus prevent the possibility of direct strain upon the newly-united tissues during the performance of this function.

Whichever method may be chosen, I am confident that when the profession as a whole has been sufficiently impressed with the idea that the restoration of the sigmoid curve of the vagina, and of the normal

upward inclination of the genital furrow, by traction upon the tissues from above downward, and from below upward, is the only thing essential to success in the restoration of the lacerated pelvic floor, the number of improper and useless operations, which are still constantly brought under the observation of every one interested in gynecology, will be greatly decreased, if not altogether done away with.

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